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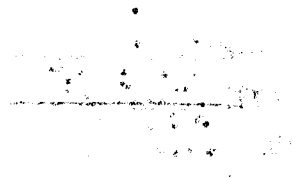
January 26, 2015

Representative Art Wittich, Chairman  
House Human Services Committee  
Helena, Montana 59620

Dear Chairman Wittich and Committee Members,

I am working with Representatives Ballance, Greef and Senator Caferro to offer HB 245 to change laws related to the sale of milk. There are legal sales or distribution of fresh, unprocessed milk in forty states. Eight states allow the sale of raw milk with no limit on animals and no testing requirements. Another seven states allow the distribution of raw milk through herd shares with no limit on animals and no testing requirement. Many countries in Europe offer fresh, unprocessed milk via vending machines. Italy alone has over 1,300 such vending machines. Our simple desire is for Montana to allow raw milk sales directly from farmers with strict standards to meet exponentially growing demand. The bill provides several additional benefits:

1. Provides important economic opportunities for small farmers in direct-to-consumer transactions. Dairy farmers are struggling due to high feed and energy prices and, as a result, more and more family-scale dairies are selling out to large dairies. This bill allows farmers who are willing to manage a limited number of cows, goats or sheep to have a marketable product to sell to customers. The bill also provides opportunities for 4-H and FFA youth in dairying.
2. Benefits our state economy because consumers' money will stay within the state instead of going to the large out-of-state dairy conglomerations.
3. Allows Montanans to choose to buy from people in the local community whom we know, as opposed to buying from large-scale or unknown food sources.
4. Reduces government intrusion into people's lives. We should be able to decide what we want to put into our bodies or not. The government doesn't need to protect us from ourselves.
5. Ensures transparency and accountability. Since the bill only allows small-scale, direct-to-consumer transactions, the consumer will always know the source of the milk and be able to hold that source accountable. Local farmers who produce a sub-standard product will not only lose customers and financial support, but will have to face those people in their communities. In contrast, if something goes wrong at a large-scale out-of-state conglomerate, the effects are far-reaching with few real consequences for the seller.
6. Maintains **health and safety standards**. The bill sets out specific standards for raw milk for sale, including TB and brucellosis testing, fluid milk testing at the same frequency the Grade A dairies must adhere to by Federal standards, but stricter bacterial and somatic cell levels. Antibiotic testing is also included. The bill also requires specific cooling requirements, signage, labeling, and assumption of risks by the consumer. (Does the beef industry in Montana require these steps to avoid liability if anyone is sickened by E coli, Campylobacter, Salmonella or mad cow disease?)



**Opposition:** Many in the dairy industry, government and health industries, have been preconditioned over years with incorrect information concerning the lack of safety of milk. You have been provided with the statistics sheets showing data from the CDC's own website and other scientifically-recognized sources showing that raw milk is no more dangerous than many other foods like sprouts, leafy greens, cantaloupe, berries, peppers, peanut butter, ground beef, turkey, processed meats, fruit salad, pizza, cookie dough and tuna. **In fact, CDC states that produce is the largest source of food poisoning.**

**While some people claim that there have been lawsuits and increased incidents of illness where raw milk has been legalized, the data does not support that claim.** As per the statistics sheet provided, there is no consistent pattern of increased illnesses corresponding to legal sales of raw milk. Even in states where raw milk is illegal, many people still drink it. Here in Montana, there is a large "underground" milk market across the state. And when I spoke with various Grade A dairies, I found that these producers and their families drink unpasteurized milk, even though that milk does not meet the standards we are setting in this bill.

**Any food can make you sick.** We are not denying that raw milk can cause illness if handled improperly, just like any other food. There have been sporadic, occasional and inconsistent reports of raw milk illness, but these have not been enough to establish the necessary pattern to indicate an actual problem.

Another argument from the opposition is that, **should there be an "outbreak," this will hurt the dairy industry** because people will stop drinking all milk. **The data in reality supports the opposite** (see data sheet). This bill does not allow for raw milk to be sold in stores or farmers' markets. Should anyone become sick, and the illness legitimately linked to the raw milk, there would be a very small number of people affected and the source would be very clear. Since the sale would not have occurred outside of the farm, there would be no reason for people to confuse the issue.

Also in the statistics sheet is recent data regarding the safety and health benefits of raw milk. Many of you grew up drinking raw milk. Multiple scientific studies have shown that raw milk's benefits are real, and all we're asking is that people be able to weigh the risks and benefits for themselves.

This bill asks only that Montana join the majority of the nation in recognizing its citizens' right to choose what foods they buy and consume. The opponents to the bill raises many fears, but few facts. I urge you to look beyond such baseless fears and support the interests of Montana consumers and farmers.

Please support HB 245

/s/ Chris Rosenau

## Grade A Issues and Number of Animals Addendum

As of last session, all Grade A dairies (except two) in Montana are members of the Darigold or Meadow Gold pools and, as such, are not contractually allowed to sell raw milk. One of the independents was unable to participate, and the other could only participate minimally due to their inability to expand. An investment in Grade A equipment and construction standards runs an average of \$200,000, give or take many factors, the bare bones investment being over \$100,000 (spreadsheet available on request). These numbers were arrived at by over half a dozen dairy farmers/professionals most of whom have also worked in the construction industry.

However, Grade As are included in the bill for several reasons. Circumstances may some day change for the two independents. Some producers wish to leave the pools and become independent, but this requires a large outlay of cash for pasteurizing and bottling equipment as well as transportation, as they would not have the customer base to sell all their milk as raw and would need a way to sell remaining milk. The hope is that including Grade As will encourage them to work on some solutions to the issues that they have.

The **number of animals** used in the bill is a **specific number**. A farmer needs more than ten cows to eek out a minimal existence due to costs (spreadsheet available on request). This is NOT a starting number. Buying a single dairy cow averages \$2,000. The number is meant for farmers to build over time, if they so desire, with demand for their product. Remember that our producers are not allowed to sell retail and are limited to only those customers who show up at the farm.

**Our supporters want the low producing cows with the high butterfat and cream content** to be able to sell the cream and the butter, so the amounts of milk produced would be half that of conventional dairies using Holsteins with little butterfat whose goal is milk production because they are paid per hundredweight of fluid milk. I know a dairyman who is a 71 year old bachelor who milks 20 cows twice a day, alone, so **15 is not an unmanageable number**. The cows producing more cream, produce a rough average of **three or four gallons a day**. This is not near the amount that Holsteins produces.

Out of 65 cow dairies in the state, only four have around 20 animals, and three of those producers are at retirement age. The remainder of the dairies have anywhere from 60 to 600 cows.

An example of the success we envision with this raw milk program is epitomized in a raw milk farmer in Recluse, Wyoming who is planning on traveling to the hearing to give testimony. Frank Wallis started with two cows, now has 17 cows (11 lactating) with over 125 customers. He delivers his milk to customers and has had no illnesses (no rules in Wyoming or 14 other states regarding testing or numbers). Having the ability to build up to 15 cows or 30 goats to satisfy customer demand over time is not unreasonable. A producer needs many more cows than 15 to be able to afford Grade A equipment and construction standards.

## Support Access to Raw Milk

Consumers are increasingly seeking out raw milk as a natural, unprocessed food. Unfortunately, some people in the conventional dairy industry and medical fields are seeking to restrict people's informed choices through banning or unreasonable restrictions on the sale of raw milk. **We urge you to reject such efforts and support consumer choice.**

The justification for bans or severe restrictions on raw milk is that it is supposedly dangerous, but this is not supported by the data. It is important to recognize that any food can be the source of foodborne illness under the wrong conditions. When thousands of people became sick from spinach, peanut butter, and cantaloupes, no one urged that we ban these products or severely limit consumers' access to them. **The issue isn't whether some people have become sick from raw milk on occasion – the issue is whether raw milk poses such an unusually high level of risk that it somehow justifies the government interfering with people's choices.**

All of the data discussed below is from the CDC for the 12-year period from 1998 to 2009, based on the online database at <http://wwwn.cdc.gov/foodborneoutbreaks>. Nationwide, in that 12-year period, there were 1,360 illnesses, 78 hospitalizations, and **no** deaths attributed to raw milk.<sup>a</sup>

To put these numbers in context, there were 286,836 illnesses, 9,694 hospitalizations, and 207 deaths reported to the CDC in that same time period from all foods. See [wwwn.cdc.gov/foodborneoutbreaks](http://wwwn.cdc.gov/foodborneoutbreaks). Consider the illnesses attributed to a few other foods:

- Fruit salad: 1,252 illnesses; 37 hospitalizations; and 1 death.
- Tuna: 1,394 illnesses, 43 hospitalizations, and 3 deaths.
- Pizza: 1,699 illnesses, 21 hospitalizations, and 3 deaths.

The numbers of illnesses attributed to fruit salad, tuna, and pizza are similar to those attributed to raw milk during this time period – with the exception that, unlike these foods, raw milk has **not** caused any deaths. While more people may consume these foods occasionally, few people consume these foods day-in and day-out, in contrast to raw milk.

### Consumption rates:

How many people drink raw milk? According to a CDC survey, an average of 3% of the population has drunk raw milk within the last 7 days. *Foodborne Active Surveillance Network (FoodNet) Population Survey Atlas of Exposures* (2006-2007), [www.cdc.gov/foodnet/surveys/FoodNetExposureAtlas0607\\_508.pdf](http://www.cdc.gov/foodnet/surveys/FoodNetExposureAtlas0607_508.pdf). That translates to approximately 9.4 million raw milk consumers nationwide. So, out of 9.4 million raw milk drinkers, approximately 113 allegedly become sick each year from raw milk, or 0.001% annually.

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<sup>a</sup> A few of the larger outbreaks during this time period are listed as having multiple causes, such as “1% milk, unpasteurized; sauces, unspecified” or “butter ; goat cheese/chevre, unpasteurized; goat milk, unpasteurized; whole milk, unpasteurized”, making it unclear whether it was raw milk or some processed product that was truly the causative agent. We have erred on the side of including these outbreaks, thus overestimating the number of illnesses properly attributable to raw milk.

## Pasteurized milk also carries some risk of foodborne illness

What about the numbers for pasteurized milk? In the same time period (1998-2009), 2,352 people became ill, 27 people were hospitalized, and **3 died** from pasteurized milk. A large number of people drink pasteurized milk, so the relative risk is not high. But no food is risk-free.

In fact, a massive foodborne illness outbreak was linked to pasteurized milk in the 1980s. In 1985, there were over 16,000 confirmed cases of Salmonella infection that were traced back to pasteurized milk from a single dairy. Two surveys estimated that the actual number of people who became ill in that outbreak were over 168,000, "making this the largest outbreak of salmonellosis ever identified in the United States." Ryan, CA et al. Massive outbreak of antimicrobial-resistant salmonellosis traced to pasteurized milk. J. American Medical Assn. 258(22):3269-74 (1987), <http://www.ncbi.nlm.nih.gov/pubmed/3316720?dopt=Abstract>

## Raw milk is a separate issue from fresh raw cheeses, which pose a higher risk

Some industry groups have presented higher numbers of illnesses allegedly due to raw milk, including two deaths. But these numbers are not attributable to raw milk, but rather to all raw dairy products. This is an important distinction because of the extensive problems reported from raw queso fresco, often imported from Mexico or made under unsanitary conditions at home and therefore nicknamed "bathtub cheese." See Queso Fresco: Cheese with a reputation, <http://www.foodsafetynews.com/2010/05/queso-fresco-cheese-with-a-reputation>. Many of the illnesses and all of the deaths that the industry attributes to raw milk were in fact linked to raw queso fresco, which is an illegal product.

## Conclusion

The data, as opposed to the rhetoric, shows that raw milk does not pose an unusually high risk of foodborne illness.

### **There are multiple principles that support continued, reasonable access to raw milk:**

- Americans have a right to decide what they feed themselves and their families.
- Direct sales of raw milk provide a reasonable income for small family farms, often making the difference between being able to continue farming and going out of business.
- Supporting family farms supports rural economies in general by promoting local businesses and keeping money circulating locally.

For more information, contact \_\_\_\_\_

## **Attachments**

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## **Attachment 1: Scientific studies have documented benefits from raw milk**

The claim that raw milk has no benefits over pasteurized milk is, on its face, false. Does anyone contend that cooked strawberries or spinach are no different than raw strawberries or spinach? It's well-accepted that heating foods not only changes the taste, but destroys enzymes and certain nutrients.

In addition, there are published, peer-reviewed scientific studies showing health benefits from raw milk.

**Several recent studies in Europe have found that drinking "farm" (raw) milk protects against asthma and allergies.** (See Riedler, J. et al. 2001. Exposure to farming in early life and development of asthma and allergy: a cross-sectional survey. Lancet 358:1129-33. Perkin, M.R. and D.P. Strachan. 2006. Which aspects of the farming lifestyle explain the inverse association with childhood allergy? J Allergy Clin Immunol. 117(6):1374-8. Waser, M. et al. 2006. Inverse association of farm milk consumption with asthma and allergy in rural and suburban populations across Europe. Clinical and Experimental Allergy 37:661-670. Perkin, M.R. 2007. Unpasteurized milk: health of hazard? Clinical and Experimental Allergy 37:627-630.)

**Raw milk retains higher levels of Vitamins A, B, C, and D than pasteurized.** (See Haug, A., A.T. Hostmark, and O.M. Harstad. 2007. Bovine milk in human nutrition—a review. Lipids Health Disease 6:25 ("Proteins and peptides are heat sensitive, and their bioactivity may be reduced by pasteurization of milk. Heating of milk may also result in the formation of potentially harmful new products, i.e. when carbohydrates in milk react with proteins."). Wong, D.W.S. and W.M. Camirand. 1996. Structures and functionalities of milk proteins. Critical Rev Food Science Nutr. 36(8): 807-844. Runge, F.E. and R. Heger. 2000. Use of microcalorimetry in monitoring stability studies. Example: Vitamin A Esters. J Agric Food Chem 48(1):47-55. Kilshaw, P.J., L.M. Heppell, and J.E. Ford. 1982. Effects of heat treatment of cow's milk and whey on the nutritional quality and antigenic properties. Arch Disease Childhood 57: 842-847 (heat treatment destroyed all of the Vitamin B12, about 60% of the thiamin and Vitamin B6, 70% of the ascorbic acid, and about 30% of the folate). Gregory, J.F. 1982. Denaturation of the folacin-binding protein in pasteurized milk products. J Nutr. 112: 1329-1338. Effect of several heat treatments and frozen storage on thiamine, riboflavin, and ascorbic acid content of milk. J Dairy Sci. 66: 1601-6. Rajakumar, K. 2001. Infantile scurvy: a historical perspective. Pediatrics 108(4):E76. Hollis, B.W. et al. 1981. Vitamin D and its metabolites in human and bovine milk. J Nutr. 111:1240-1248. See also Levieux, D. 1980. Heat denaturation of whey proteins: comparative studies with physical and immunological methods. Ann Rech Vet. 11(1): 89-97 ("Nutritionists believe that high losses of nutritive value occur in heated proteins following cross-linking since high cross-linked proteins cannot be degraded by digestive enzymes."))

Moreover, there are numerous testimonials about the benefits of drinking raw milk. See <http://www.realmilk.com>. While these do not provide scientific evidence of benefits, it is clear that individuals choose to expend significant time and money to drink raw milk because they see a benefit.

## **Attachment 2: Improving legal access to raw milk will not increase foodborne illness outbreaks**

Some groups have argued against allowing or expanding legal access to raw milk on the grounds that if you make it easier to get raw milk legally, more people will drink raw milk, and more people will get sick. While that argument is intuitively appealing, it is contradicted by the CDC's data.

The attached chart shows the consumption of raw milk in 10 states, the raw milk laws in each state, and the incidence of foodborne illnesses.

**First, note that in every state, the number of illnesses attributed to raw milk is a very small percentage of the total number of foodborne illnesses.**

**Second, there is no pattern indicating that making raw milk legally accessible increases consumption.** Maryland (where raw milk sales are illegal) had the exact **same** percentage of people who had drunk raw milk within the last 7 days as California (where raw milk can be sold in grocery stores). And Georgia, where raw milk can only be sold as pet food, had the highest consumption rates of all.

**Third, there is also no pattern of increasing rates of consumption correlating to increasing illnesses.** The two states with the highest rates of consumption -- Tennessee and Georgia -- had lower rates of raw milk illnesses than the three states with the lowest rates of consumption -- Minnesota, Colorado, and Connecticut.

How can this be true? The most likely reason is that the risk of foodborne illness from raw milk is low enough that the outbreaks are sporadic and occasional. Because raw milk is not a high-risk food, the incidences of illness are too low to show a pattern.

The data directly contradicts the assertion that increasing legal access to raw milk will increase the number of people who get sick.



## Chart of Raw Milk Consumption, Legal Status, and Illnesses

State	People who consumed raw milk in last 7 days <sup>b</sup>	Current legal status of raw milk	Number of illnesses allegedly traced to raw milk, 1998-2009 <sup>c</sup>	Total number of foodborne illnesses, 1998-2009 <sup>d</sup>	Percentage of foodborne illnesses allegedly traced to raw milk <sup>e</sup>
Minnesota	2.30%	farm sales legal	16	9,125	0.18%
Colorado	2.40%	herd shares legal	113 <sup>f</sup>	7,808	1.45%
Connecticut	2.70%	retail sales legal	14	2,687	0.52%
Oregon	2.80%	farm sales legal	9 <sup>g</sup>	7,041	0.13%
California	3%	retail sales legal	45 <sup>h</sup>	34,217	0.13%
Maryland	3%	no sales legal	0	7,703	0%
New Mexico	3.40%	retail sales legal	20	1,017	1.97%
New York	3.50%	farm sales legal	46 <sup>i</sup>	14,138	0.33%
Tennessee	3.50%	herd shares legal	4	6,140	0.07%
Georgia	3.80%	legal only as pet food	8	8,334	0.10%
<b>10 State TOTAL</b>	<b>3%</b>		<b>275</b>	<b>98,210</b>	<b>0.28%</b>

<sup>b</sup> *Foodborne Active Surveillance Network (FoodNet) Population Survey Atlas of Exposures*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), 2006-2007.  
[http://www.cdc.gov/foodnet/surveys/FoodNetExposureAtlas0607\\_508.pdf](http://www.cdc.gov/foodnet/surveys/FoodNetExposureAtlas0607_508.pdf)

<sup>c</sup> <http://wwwn.cdc.gov/foodborneoutbreaks/Default.aspx> (downloaded January 30, 2012).

<sup>d</sup> The total foodborne illnesses are actually higher than listed in this chart because all data attributed to multi-state outbreaks was excluded for these purposes because the CDC table does not indicate how many illnesses were attributed to each state.

<sup>e</sup> Because of the undercounting of the total number of foodborne illnesses (see note 4), the true percentage of illnesses allegedly traced to raw milk is **lower** than indicated.

<sup>f</sup> In the same time period in Colorado, there was an outbreak linked to pasteurized milk that sickened 200 people.

<sup>g</sup> Oregon was part of a multistate outbreak allegedly traced to raw milk in Nov. 2005. The total number of illnesses in that outbreak were 18, but we lack data on how many people became sick in each state. We attributed half of the illnesses (9) to Oregon for purposes of this chart.

<sup>h</sup> In the same time period in California, there were two outbreaks linked to pasteurized milk that sickened 1,744 people.

<sup>i</sup> In the same time period in New York, there were two outbreaks involving pasteurized milk that sickened 18 people.

### Attachment 3: State Foodborne Illness Data (alphabetical order)

State	Current legal status of raw milk	# illnesses allegedly traced to raw milk, 1998-2009	total # foodborne illnesses, 1998-2009 <sup>j</sup>	% of foodborne illnesses allegedly traced to raw milk <sup>k</sup>
Arkansas	farm sales legal, goat milk only	0	1,340	0%
California	retail sales legal	45 <sup>l</sup>	34,217	0.13%
Colorado	herd shares legal	113 <sup>m</sup>	7,808	1.45%
Connecticut	retail sales legal	14	2,687	0.52%
Georgia	legal only as pet food	8	8,334	0.10%
Illinois	farm sales legal	18	19,622	0.09%
Kentucky	goat milk only, by prescription	0	344	0%
Louisiana	no sales legal	0	3,718	0%
Maryland	no sales legal	0	7,703	0%
Massachusetts	farm sales legal	55 <sup>n</sup>	4,947	1.10%
Michigan	no sales legal	6	11,098	0.05%
Minnesota	farm sales legal	16	9,125	0.18%
New Jersey	no sales legal	0	3,108	0%
New Mexico	retail sales legal	20	1,017	1.97%
New York	farm sales legal	46 <sup>o</sup>	14,138	0.33%
North Carolina	no sales legal	202	4,751	4.25%
Ohio	herd shares legal	113	16,020	0.70%
Oregon	farm sales legal	9 <sup>p</sup>	7,041	0.13%
Pennsylvania	retail sales legal	113	9,941	1.14%
Tennessee	herd shares legal	4	6,140	0.07%
Texas	farm sales legal	2	12,261	0.02%
Utah	farm sales legal	90	1,633	5.5%
Washington	retail sales legal	39	7,770	0.50%
Wisconsin	"incidental sales" only	148	8,310	1.78%
<b>UNITED STATES</b>		<b>1,360</b>	<b>286,836</b>	<b>0.47%</b>

<sup>j</sup> The total foodborne illnesses are actually higher than listed in this chart because all data attributed to multi-state outbreaks was excluded for these purposes because the CDC table does not indicate how many illnesses were attributed to each state.

<sup>k</sup> Because of the undercounting of the total number of foodborne illnesses (see note iii), the true percentage of illnesses allegedly traced to raw milk is lower than indicated.

<sup>l</sup> In the same time period in California, there were two outbreaks linked to pasteurized milk that sickened 1,744 people.

<sup>m</sup> In the same time period in Colorado, there was an outbreak linked to pasteurized milk that sickened 200 people.

<sup>n</sup> In the same time period in Massachusetts, there was an outbreak involving pasteurized milk that killed 3 people.

<sup>o</sup> In the same time period in New York, there were two outbreaks involving pasteurized milk that sickened 18 people.

<sup>p</sup> Oregon and Washington were part of a multi-state outbreak allegedly traced to raw milk in Nov. 2005. The total number of illnesses in that outbreak were 18, and we attributed half of those to each state

## **Attachment 4: Raw milk does not pose a threat to conventional dairy sales**

Another unsupported assertion is that, if there were an outbreak of foodborne illness linked to raw milk, consumers might avoid buying pasteurized milk, hurting conventional milk sales and retailers. The example provided is the drop in spinach sales when a nationwide outbreak of *E. coli* was linked to spinach in 2006.

The claim is wrong because it fails to recognize the difference between mass-distributed goods and direct-to-consumer transactions. The spinach that caused the 2006 outbreak was being sold in the grocery stores around the country under 34 different brand labels. *See Safe at any scale?*, Agric. Hum. Values 25:301-317 (2008). There was no realistic way for consumers to know which spinach was contaminated and which was not. Similar confusion was present in the outbreaks linked to tomatoes/ jalapenos and peanut butter. In contrast, if there were to be illnesses linked to raw milk, the source of the milk would be identified immediately. The transparent, accountable nature of direct-to-consumer sales empowers both the State and consumers to know exactly who has caused the problem and how to avoid it, without any repercussions for other products.

In addition, when there have been illnesses attributed to raw milk in other states, the health departments have been very explicit (even repetitive) about the fact that the problem lay with raw milk and not with pasteurized milk. As a result, even in states where raw milk is sold side-by-side with pasteurized milk in the grocery stores, there has been no evidence that alleged raw milk illnesses have had **any impact at all** on pasteurized milk sales.

Ten states allow the sale of raw milk in grocery stores, so that raw milk is sold side-by-side with pasteurized and the potential for negative repercussions is greatest. We were able to find data on milk sales and prices for four of these states: California, New Mexico, Pennsylvania, and Washington. The dates of foodborne illness outbreaks allegedly linked to raw milk are indicated in bold and italicized font in the attached chart.

**There is no pattern of reduced sales/production or reduced prices in conventional milk at the time of, or after, the alleged outbreaks. Consumers do not avoid pasteurized milk in reaction to reports of outbreaks linked to raw milk.**

Sources for attached chart:

- University of Wisconsin Dairy Marketing and Risk Management Program  
Prices: [http://future.aae.wisc.edu/data/monthly\\_values/by\\_area/6?tab=prices](http://future.aae.wisc.edu/data/monthly_values/by_area/6?tab=prices)  
California sales: [future.aae.wisc.edu/data/monthly\\_values/by\\_area/2115?area=California&tab=sales&grid=true](http://future.aae.wisc.edu/data/monthly_values/by_area/2115?area=California&tab=sales&grid=true)
- USDA National Agricultural Statistics Services, Milk Cows and Production Final Estimates 1998-2002, [http://future.aae.wisc.edu/collection/MilkProduction/milk\\_cow\\_fin/milk\\_cow\\_final\\_estimates\\_1998\\_2002.pdf](http://future.aae.wisc.edu/collection/MilkProduction/milk_cow_fin/milk_cow_final_estimates_1998_2002.pdf)
- USDA National Agricultural Statistics Services, Milk Cows and Production Final Estimates 2003-2007, <http://usda.mamlib.cornell.edu/usda/nass/SB988/sb1022.pdf>

## Conventional milk sales & prices during periods of raw milk outbreaks

California, New Mexico, Pennsylvania, and Washington allow sales of raw milk in grocery stores. The dates of foodborne illness outbreaks allegedly linked to raw milk are indicated in bold and italicized font. Note that there is no pattern of reduced sales/production or reduced prices in conventional milk at the time of or after the alleged outbreaks.

State	Month/Year	Whole milk sales (1,000 gallons)	Fluid milk price (\$/cwt)
California	June 2002	24146	\$10.43
	July 2002	25162	\$10.07
	August 2002	26027	\$10.34
	<b><i>Alleged outbreak</i></b>		
	<b><i>September 2002</i></b>	<b><i>26647</i></b>	<b><i>\$10.48</i></b>
	October 2002	25859	\$10.85
	November 2002	24962	\$10.53
	December 2002	25707	\$10.60
	Average over 7 months	25501	\$10.47

California	June 2006	22,017	\$10.70
	July 2006	21,910	\$10.44
	August 2006	22,808	\$10.90
	<b><i>Alleged outbreak</i></b>		
	<b><i>September 2006</i></b>	<b><i>22,468</i></b>	<b><i>\$11.75</i></b>
	October 2006	22,648	\$11.94
	November 2006	data not available	\$12.44
	December 2006	data not available	\$12.70
	Average over 7 months	22,370	\$11.55

		Milk Production (million pounds)	Fluid Milk Price (\$/cwt)
California	August 2007	3,456	\$20.60
	September 2007	3,252	\$20.40
	October 2007	3,415	\$20.30
	<b><i>Alleged outbreak</i></b>		
	<b><i>November 2007</i></b>	<b><i>3,312</i></b>	<b><i>\$21.20</i></b>
	December 2007	3,459	\$20.00
	January 2008	data not available	\$18.50
	February 2008	data not available	\$17.60
<b><i>Alleged outbreak</i></b>	March 2008	data not available	\$16.80
	April 2008	data not available	\$16.60
	<b><i>May 2008</i></b>	<b><i>data not available</i></b>	<b><i>\$17.40</i></b>
	June 2008	data not available	\$18.00
	July 2008	data not available	\$17.80
	August 2008	data not available	\$16.90

		Milk Production (million pounds)	Fluid Milk Price (\$/cwt)
New Mexico	December 1997		\$14.10
	January 1998	1,510	\$14.10
	February 1998	1,480	\$14.10
<i>Alleged outbreak</i>	<b>March 1998</b>	<b>1,705</b>	<b>\$13.70</b>
	April 1998	1,720	\$13.10
	May 1998	1,795	\$12.70
	June 1998	1,755	\$13.40
	Average over 7 months	1,661	\$13.60
Pennsylvania	May-06	945	\$13.50
	June-06	899	\$13.50
	July-06	888	\$13.50
<i>Alleged outbreak</i>	<b>August-06</b>	<b>875</b>	<b>\$13.80</b>
	September-06	863	\$14.10
	October-06	883	\$15.20
	November-06	858	\$15.40
	Average over 7 months	887	\$14.14
Pennsylvania	March-07	941	\$17.20
	April-07	930	\$18.00
	May-07	944	\$19.30
	<b>June-07</b>	<b>873</b>	<b>\$21.30</b>
	July-07	886	\$23.40
	August-07	886	\$23.70
<i>Alleged outbreak</i>	<b>September-07</b>	<b>853</b>	<b>\$23.80</b>
	October-07	887	\$23.50
	November-07	869	\$23.90
	December-07	891	\$23.10
	Average over 10 months	896	\$21.72
Washington	March-99	1,885	\$15.70
	April-99	1,870	\$13.30
	May-99	1,935	\$13.70
<i>Alleged outbreak</i>	<b>June-99</b>	<b>1,880</b>	<b>\$14.20</b>
	July-99	1,940	\$14.50
	August-99	1,915	\$15.10
	September-99	1,855	\$15.70
	Average over 7 months	1,897	\$14.60

		<b>Milk Production (million pounds)</b>	<b>Fluid Milk Price (\$/cwt)</b>
Washington	October-01	1,860	\$15.70
	November-01	1,780	\$14.30
	December-01	1,845	\$13.00
<i><b>Alleged outbreak</b></i>	<i><b>January-02</b></i>	<i><b>1,880</b></i>	<i><b>\$13.20</b></i>
	February-02	1,735	\$13.00
	March-02	1,930	\$12.50
	April-02	1,910	\$12.40
	Average over 7 months	1,849	\$13.44
Washington	February-03	1,750	\$11.30
	March-03	1,950	\$11.00
	April-03	1,895	\$11.00
<i><b>Alleged outbreak</b></i>	<i><b>May-03</b></i>	<i><b>1,975</b></i>	<i><b>\$11.00</b></i>
	June-03	1,910	\$11.00
	July-03	1,965	\$11.00
	August-03	1,960	\$11.40
	Average over 7 months	1,915	\$11.10
Washington	June-06	1,960	\$11.50
	July-06	1,960	\$11.50
	August-06	1,980	\$11.70
<i><b>Alleged outbreak</b></i>	<i><b>September-06</b></i>	<i><b>1,880</b></i>	<i><b>\$12.40</b></i>
	October-06	1,910	\$13.20
	November-06	1,815	\$13.50
	December-06	1,890	\$13.80
	Average over 7 months	1,914	\$12.51
Washington	September-07	1,905	\$22.30
	October-07	1,930	\$21.90
	November-07	1,850	\$21.90
<i><b>Alleged outbreak</b></i>	<i><b>December-07</b></i>	<i><b>1,930</b></i>	<i><b>\$21.90</b></i>
	January - 08	data not available	data not available
	Average over 5 months	1,904	\$22.00